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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH

Crystal Lagoons U.S. Corp., and **Crystal Lagoons Technologies, Inc.**, Plaintiffs, v. **Cloward H2O LLC**, Defendant.	Civil No. 2:19-cv-00796-BSJ **Cloward H2O LLC's Cross-Motion for Patent Claim Construction** District Judge Bruce S. Jenkins

Pursuant to LPR 4.2 and the Court's scheduling order (Docket No. 76), Cloward H2O LLC. ("Cloward H2O") respectfully submits its cross-motion for construction of disputed claim terms. This case involves three asserted patents. U.S. Patent 8,062,514 ("'514 Patent") and 9,708,822 ("'822 Patent") are directed to the use of flocculants with a special suction device to replace traditional pool filtration. U.S. Patent 8,753,520 ("'520 Patent") is directed to treating a portion of a water body in only a defined zone where people are likely to engage in recreation. The parties dispute the meaning of terms and phrases used in the patents. Cloward H2O asks the Court to resolve those disputes and presents this brief in support of its positions.

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CONSTRUCTION OF PATENT CLAIM TERMS AND PHRASES

It is a "bedrock principle" of patent law that the claims of a patent define the patented invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). The purpose of claim construction is to make an objective assessment about what a person of ordinary skill in the art at the time the patent was filed would have understood by the words in the claims. *Id.* at 1313, 1316–17, 1321–23.

In interpreting the words in the claims, the focus is on "how the patentee used the claim term in the claims, specification, and prosecution history" (i.e., the intrinsic record). *Id.* at 1321. A patentee often uses words in a claim in the same way as those of ordinary skill in the relevant art, and therefore the words of a claim are "'generally given their ordinary and customary meaning.'" *Id.* at 1312 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Thus, "[t]he inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation." *Id.* at 1313.

"[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art . . . as of the effective filing date of the patent application. . . . In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1313–14. In other cases, however, the meaning of a claim term as understood by persons of skill in the art may not be immediately apparent, and additional sources must be consulted to determine what a person of skill in the art would have understood the term to mean. *Id.* at 1314, 1322–23.

"Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316 (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

I. Construction of Terms and Phrases for the '514 and '822 Patents

From the filing of the initial Complaint in this case, Crystal Lagoons has asserted that there are two types of structures and processes used for maintaining swimming pools: (1) traditional swimming pool filtration technology that consists of a centralized filtration system with inlets/outlets and a piping network to allow the filtration of the entire volume of water; and (2) the use of flocculants to flocculate (i.e., form clumps of) suspended particles that fall to the bottom and are then removed by a new type of suction device, which Crystal Lagoons describes as its technology. (Docket No. 2, Complaint, at ¶ 66; Docket No. 11, First Amended Complaint, at ¶ 62.) The '514 and '822 Patents are both directed to the latter and disclose the use of flocculants with a special suction device to "completely replace" traditional water filtration along with water skimmers to dispose of surface water contaminated with impurities and surface oils. (JA at 13, '514 Patent at col. 1, lns. 24–30.) These patents are part of the same patent family and share a common specification and drawings.[1] (*See generally* JA at 1–38m '514 and '822 Patents.)

The premise of the '514 and '822 Patents is that traditional pool filtration is expensive when deployed for large water structures (i.e., those over 15,000 m^3). Therefore, as an alternative

[1] Because the '514 and '822 Patents share the same description and drawings, reference to the patents' description and drawings herein are only to the '514 Patent but are equally applicable to the '822 Patent as well.

to filtration, the ’514 and ’822 Patents describe the use of flocculants to cause water impurities to clump together and fall to the bottom of the pool, which must be covered with a non-porous plastic liner. “The plastic liner must have special non-porous characteristics” so that the flocculant clumps can be removed by a specialized suction device, which “replaces completely the traditional filtering system of swimming pools.” (JA at 17, ’514 Patent at col. 9, lns. 1–15; col.10, lns.5–12.)

In addition to impurities *in* the water, impurities such as surface oils are also present *on* the surface water of a pool. In a traditionally filtered pool, skimmers around the perimeter skim off the surface layer of water and send it through the filtration system. However, in the structure and processes of the ’514 and ’822 Patents there is no filtration system, so the described skimmers dispose of surface layer of water rather than recycling it. (JA at 17, ’514 Patent at col. 10, lns. 31–35.) According to the ’514 and ’822 Patents, these two aspects, the suction device for removing flocculated impurities and disposal of surface water through the skimmers completely replace traditional filtration.[2]

[2] *See* JA 1–22, ’514 Patent at Abstract, (“replaces traditional filtering”), col. 1, lns. 24–30 (“replacing traditional filtration”), col. 4, lns. 45–52 (“traditional filtration step has been substituted by a suspend-ed-solid flocculation step”), col. 7, lns. 30-31 (“replace the traditional filtering”), col. 7, lns. 55–57 (“present invention does not have a traditional filtration process”), col. 8, lns. 45–47 (“traditional filtering processes used in swimming pools are replaced”), col. 9, lns. 4–5 (“replaces completely the traditional filtering system of swimming pools”), col. 9, lns. 50–53 (“replaces the traditional filtering system of swimming pools”), col. 17, lns. 34–35 (“the replacement of filtering by a suction device and skimmers”), col. 18, lns. 30–32 (“Flocculation and bottom cleaning by suction together with skimmers replace the filter system of conventional swimming pools”), Table 5 (contrasting the traditional filtration of the water once every 24 hours against the suction device of the ’514 and ’822 Patents, wherein 250,000 m^3 = 250,000,000 liters, and filtering 2,893 liters/second filters 249,955,200 liters once every 24 hours (2,893 liters/second × 86,400 seconds/day)).

Because of the contrast drawn by the '514 and '822 Patents between traditional filtration and the flocculent/suction device approaches, Crystal Lagoons initially alleged that the accused water structure at the Hard Rock Hotel & Casino ("Hard Rock Lagoon") was not a traditionally filtered pool. Specifically, Crystal Lagoons alleged that "the Hard Rock lagoon was previously designed as a conventional swimming pool with a swimming pool filtration system and a large number of inlets and outlets to filter the entire volume of water, and therefore would not infringe Crystal Lagoons patents …." (Docket No. 2, Complaint at ¶ 67.) This previous, non-infringing traditionally filtered design "included more than 80 inlets located in the lagoon's bottom and walls." (Docket No. 2, Complaint at ¶ 71; *see also* Docket No. 63, First Amended Complaint at ¶ 67 (same).) But Crystal Lagoons' complaint alleged that the final plans for the lagoon had "a small number of inlets and outlets [i.e., less than the 80 of the previous design] that would not allow filtering the entire volume of water." (Docket No. 2, Complaint at ¶ 67; *see also* Docket No. 63, First Amended Complaint at ¶¶ 63, 67 (repeating the same allegations).)

But Cloward H2O produced its final plans early in connection with an early motion for summary judgment, which showed that the as-constructed Hard Rock lagoon employed a traditional filtration system with 115 inlets in the bottom and walls of the lagoon (far more than the admittedly non-infringing design with 80 inlets for filtration circulation), which are hydraulically sized to circulate the entire volume of water in the lagoon every 10.57 hours (i.e., more than twice per day).

In response, and with no apparent basis for doing so, Crystal Lagoons amended its allegations to assert that its patents *do* cover traditionally filtered swimming pools. To do so, Crystal Lagoons has distorted the plain meaning of the claim language in the '514 and '822

Patents, arguing now that plastic-covered "walls" means a plastic covered "floor," that the claimed skimmers to remove water and surface oils can just recirculate them through a filter instead, and that the "suction device" that completely replaces traditional filtration is merely a standard pool vacuum used alongside traditional filtration just like in standard swimming pools. Crystal Lagoons' interpretations run counter to the plain meaning of the claims—especially in light of the patent specification and statements made to the Patent Office when prosecuting the patents—and no person of skill in the art would interpret the claims as Crystal Lagoons has.

A. A "wall" is a "wall"—not the floor, and a wall covered with plastic able to be thoroughly cleaned must have exposed plastic to be cleaned.

Claim Term	Cloward H2O's Proposed Construction
"walls"	"substantially vertical surface of the structure"
"covered with a plastic liner made of nonporous material able to be thoroughly cleaned"	"with a uniform plastic liner made of a non-porous material forming the exposed surface such that the exposed plastic liner can be thoroughly cleaned"

The asserted claims of the '514 Patent require "a bottom and walls covered with a plastic liner made of a non-porous material able to be thoroughly cleaned." (JA at 22, '514 Patent at claim 1.) The Hard Rock Lagoon does not have plastic covered walls but, instead, walls covered entirely in concrete. Once Crystal Lagoons learned that the Hard Rock Lagoon did not have exposed plastic on the walls, Crystal Lagoons proposed a novel interpretation of "wall" to mean the "floor." And contrary to its representations to the Patent Office, Crystal Lagoons also claims here that the claimed plastic liner does not need to be uniform for purposes of cleaning but can be broken up by floor water inlets that inject filtered water into the water structure and interfere with thorough cleaning of the liner. But the plain language of the claims themselves as well as

Crystal Lagoons' representations to the Patent Office foreclose Crystal Lagoons' interpretations. Moreover, those of skill in the art demonstrably do not use "wall" to refer to the "floor."

1. The claims themselves distinguish between the "bottom" and "walls."

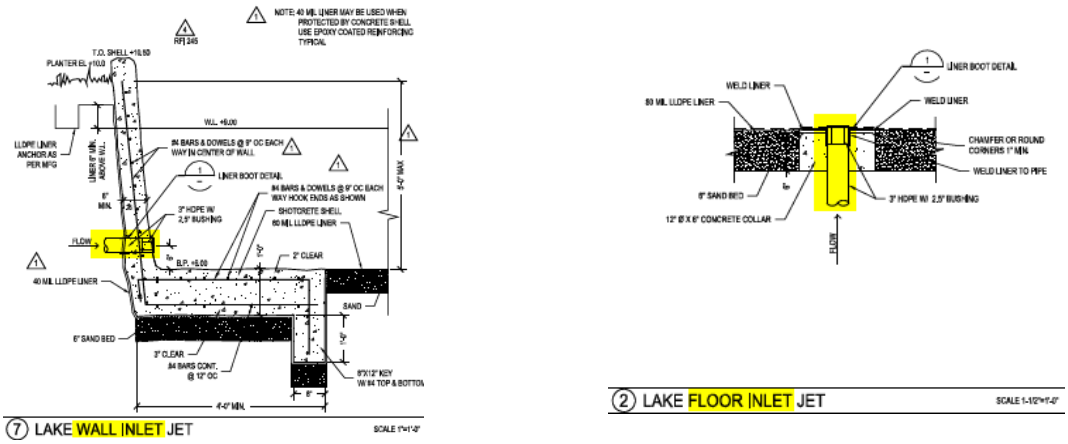
Starting with the claims themselves, each one unambiguously states that the plastic covers both the "bottom *and* walls." In other words, the "walls" are different than the bottom/floor of the structure. *Helmsderfer v. Bobrick Washroom Equipment, Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008) ("Our precedent instructs that different claim terms are presumed to have different meanings.") (citing *Applied Med. Res. Corp. v. U.S. Surgical Corp*., 448 F.3d 1324, 1333 n. 3 (Fed. Cir. 2006) ("[T]he use of two terms in a claim requires that they connote different meanings....")). Use of the term "wall" in the specification of the '514 Patent likewise distinguishes the walls from the bottom. (JA at 17–18, '514 Patent at col. 9, lns. 1–32, col. 10, lns. 12–15, col. 12, lns. 27–31.)

2. Normal usage of "wall" does not refer to the floor, and those of skill in the art do not ascribe any unusual meaning to "wall" when used with respect to pools.

Interpreting "wall" to mean "a substantially vertical surface of the structure" comports with common, lay usage of the term, "wall." (Cloward Appx. at 14, American Heritage Dictionary at p. 1936 (4th ed. 2000) (for wall—"1. An upright structure of masonry, wood, plaster, or other building material serving to enclose, divide, or protect an area, especially a vertical construction forming an inner partition of exterior siding of a building. 2. A continuous structure of masonry or other material forming a rampart and built for defensive purposes. … 3. A structure of stonework, cement, or other material built to retain a flow of water. … 5. *Sports* The vertical surface of an ocean wave in surfing.").) Swimmers walk on the bottom of the pool, not on the

walls. And, if someone were to say "go swim to the wall," normal people would not submerge themselves in an effort to touch the pool bottom. In short, Crystal Lagoons' interpretation that the floor is a wall is at odds with the claims, the patent specification, and ordinary usage.

Nor is there any peculiar meaning to the term "wall" among pool designers. Other persons of skill in the art also distinguish between pool "walls" and the pool bottom or floor. Cloward H2O's pool engineers did so when describing the inlets that feed the Hard Rock Lagoon with recycled water from the traditional pool filters:



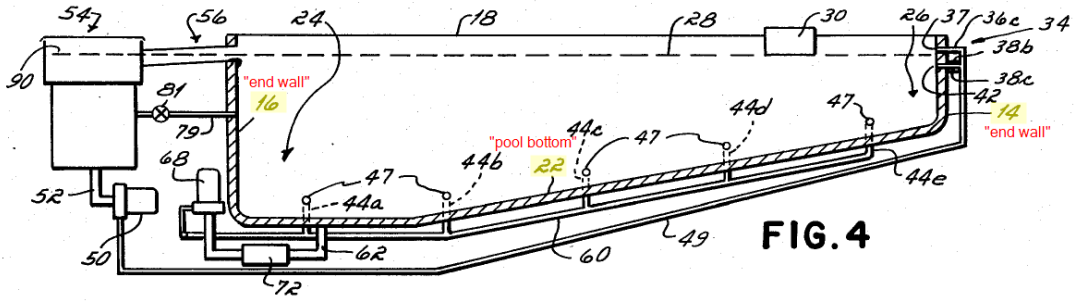
(Cloward Appx. at 8; Final Design Plans for the Hard Rock Lagoon.)

In fact, those of skill in the art of water feature construction would be familiar with pool codes, which are analogous to technical dictionaries, that "walls" and pool "bottoms" are different and that walls are substantially vertical. (*See* Cloward Appx. at 16, Utah Admin. Code R392-302-10 ("Pool walls must be vertical or within plus three degrees of vertical to a depth of at least two feet and nine inches"); *see also* Cloward Appx. at 32, 25 Texas Admin Code § 264.182(158) ("Walls – The interior pool or spa wall surfaces consisting of surfaces from plumb to a slope of 11 degrees from plumb." effective September 1, 2004).) The reason is that pool codes often specify that a pool bottom cannot be too steep lest swimmers walking on the

bottom slip and injure themselves. Likewise, pool walls must be vertical enough to prevent injury from a person entering a pool (e.g., by jumping) does not slip or otherwise injure themselves.

3. During prosecution of the ’514 Patent, Crystal Lagoons represented that floor inlets are incompatible with the ’514 Patent and would disrupt the claimed thorough cleaning of the liner.

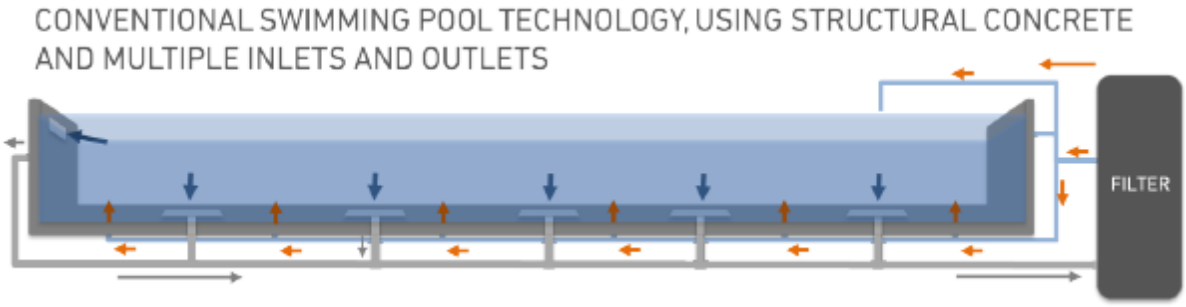
Other references from the prosecution of the ’514 Patent show that the bottom of a pool even if sloped is called the bottom as opposed to the “walls.” For example, during prosecution of the ’514 Patent, the Patent Office initially rejected the claims based on U.S. Patent No. 4,640,784 to Peter Cant (“Cant Prior Art”), which describes a traditionally filtered pool with floor inlets / spray jets. The Cant Prior Art describes the “walls” as walls and the sloping pool bottom as the “bottom:”

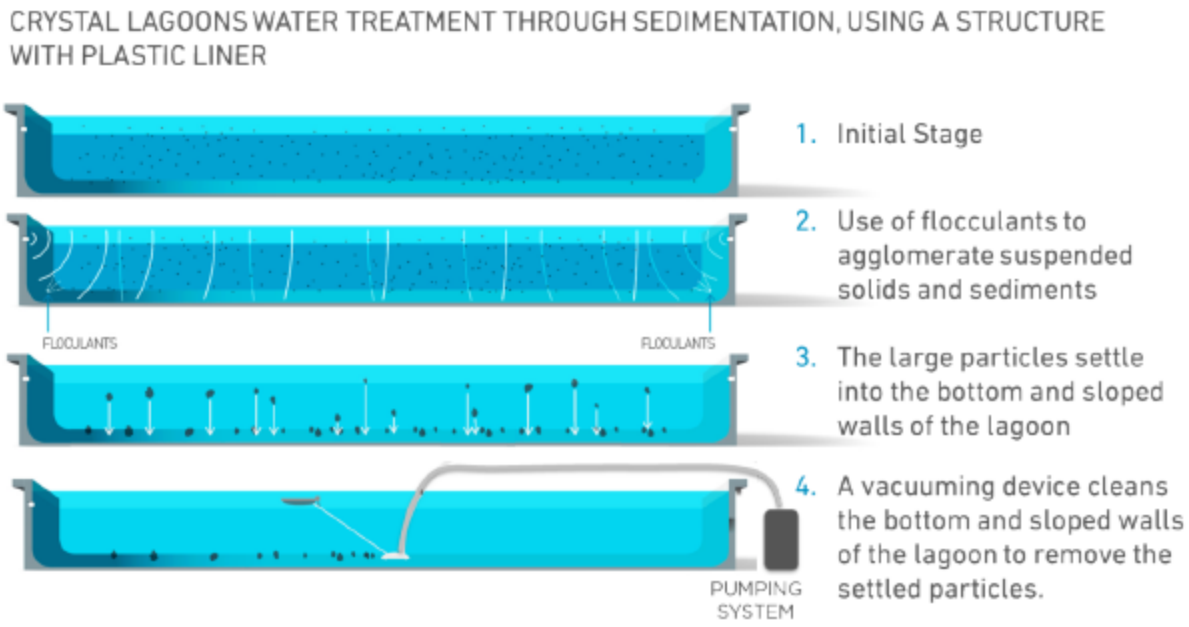


(Cloward Appx. at 37, Cant Prior Art at Figure 4 and col. 5, lns. 55–60 (annotations added).) The patent examiner rejected the pending claims of the ’514 Patent based on the Cant Prior Art because the examiner said that the Cant Prior Art disclosed a pool with skimmers and cleaning as set forth in the claims and that covering the walls and bottom with plastic was also known in the prior art and would have been obvious. (JA 171–172, Office Action Rejection at pp. 2–3.) In response, Crystal Lagoons argued that “Cant is incompatible with the present invention, as the

present invention includes a bottom covered with a plastic liner that is able to be thoroughly cleaned, whereas the spray jets located in the bottom of the structure disclosed by Cant would not allow the normal functioning of a bottom cleaning device (e.g., a suction device). Also the installation of spray jets in the bottom might cause damage to the liner ….” (JA at 193, Amendment and Response at p. 6.) *See also MasterMine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1312 (Fed. Cir. 2017) (“this explanation presented by the inventor during patent examination is relevant to claim construction, “for the role of claim construction is to ‘capture the scope of the actual invention’ that is disclosed, described, and patented.”) (quoting *Fenner Invs. Ltd. v. Collco P’ship*, 778 F.3d 1320, 1323 (Fed. Cir. 2015)).

It is not surprising, then, that the Figures of the ’514 Patent do not show any floor inlets or floor drains when illustrating the claimed structures. (JA at 12, ’514 Patent at Figure 10). And, when distinguishing prior art traditional filtration from Crystal Lagoons’ alleged technology, Crystal Lagoons’ complaint shows that its technology does not use floor inlets and floor drains:





(Docket No. 39, Third Amended Complaint at ¶ 27, Figures 26–27.)

Accordingly, the plain meaning of the term "wall" among lay persons and those of skill in the art in the context of the claims is a "substantially vertical surface of the structure." And walls "covered with a plastic liner … able to be thoroughly cleaned" means that the exposed plastic must be exposed and uniform so that it can be thoroughly cleaned (as Crystal Lagoons represented that a liner interrupted by floor inlets would interfere with cleaning). The Court should, therefore, adopt Cloward H2O's proposed constructions in accordance therewith.

B. The claims, specification, and prosecution history all describe removal (i.e., elimination/disposal) of displaced water and impurities using the claimed skimmers, as opposed to recirculation of the water and impurities.

Claim Phrase	Cloward H2O's Proposed Construction
"fresh water feeding pipe system that allows entrance of fresh water and results in water removal by displacement of surface water through the skimmer system"	"new intake water feeding pipe system that allows entrance of new intake water into the structure and results in elimination of a substantially equivalent amount of water from the structure by displacement of surface water through the skimmer system"

"feeding the water body with inlet water to generate displacement of surface water … and removing displaced surface water using the skimmers"	"feeding the water body with new intake water to generate displacement of surface water … and elimination of a substantially equivalent amount of displaced surface water from the structure using the skimmers"

The asserted claims of both the '514 and '822 Patents require a fresh water feeding pipe or inlet water to displace surface water and remove the displaced surface water through the skimmers. (JA at 22, '514 Patent at claim 1; JA at 62, '822 Patent at claim 1 (top of column 20).) The Hard Rock Lagoon does not use a fresh water feeding pipe or inlets to remove water from the lagoon by displacement. In fact, the Hard Rock Lagoon does not remove water at all though the skimmers but rather sends skimmer water for recycling back into the structure after filtration. Crystal Lagoons now interprets its patents to cover recycling of water through filters as opposed to removal. But Crystal Lagoons' interpretation is at odds with the plain claim language, specification, and its own representations during the prosecution of the patents.

1. The plain claim language states that displaced water is "removed" just like impurities are "removed"—not recycled.

Starting again with the claims themselves, the claims refer to "skimmers for the *removal* of impurities and surface oils" as well as "*removing* precipitated impurities from the bottom with a movable suction device." (JA at 22m '514 Patent at claim 1 (emphasis added); JA at 62, '822 Patent at claim 1 (emphasis added).) It would be antithetical to the patents and their claims to interpret "removal" as "recirculation" of the impurities in the water because the whole point is to clean the water. So, when the claim language reads "water removal by displacement of surface water through the skimmer system" or "removing displaced water using the skimmers," it means elimination (i.e., disposal) of the water. *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1345 (Fed. Cir. 1998) (word "array" used in two instances had to be interpreted consistently for

all uses of the word, "whatever interpretation we assign should encompass both uses because the same word appearing in the same claim should be interpreted consistently.").

When Crystal Lagoons wanted to claim "recirculation" instead of "removal," it certainly knew how. For example, unasserted claim 5 of the '514 Patent adds an additional limitation for a circulation system separate from the fresh water feeding pipe and skimmer system. Specifically, claim 5 recites, "a recycling system that uses pipes with injectors which allow maintaining water homogeneity by avoiding stagnating zones" (JA at 22, '514 Patent at claim 5; *see also id.* at claim 8 (including a similar limitation).) If water "removal" by the skimmers meant "recycling" the water for injection back into the structure, then the additional recycling system of claim 5 becomes meaningless. And the two terms are presumed to have different meanings. *Helmsderfer*, 527 F.3d at 1382 ("Our precedent instructs that different claim terms are presumed to have different meanings.").

Accordingly, in order to give "removal" a consistent interpretation in the claims, water "removal" means what it says, i.e., removal/elimination/disposal.

2. The specification states that the use of skimmers for water recirculation through filters is antithetical to the claimed inventions.

The specification of the '514 and '822 Patents describes that, in addition to the flocculation and suction device, the "structures or ponds *must have* water intakes that allow using low cost water since, *in contrast to swimming pools that recycle water through their filters*, in this case *the water from the skimmers and the suction cart or device is disposed of*." (JA at 17, '514 Patent

at col. 10, lns. 31–36 (emphasis added).)[3] Thus, the skimmers are elsewhere referred to as "dumps." (JA at 14, '514 Patent at col. 4, lns. 45–52.) The specification states that the "structure *must have* skimmers to remove surface oils and particles, since otherwise they accumulate and deter water quality even after performing all the chemical treatment steps, since these do not remove floating greases or solids." (JA at 17, '514 Patent at col. 9, lns. 54–62.) And it is this "process of movement of superficial water toward the skimmers caused by fresh water entry together with the flocculant-suction device system [that] replaces the traditional filtering system of swimming pools." (*Id.*) The "recycling system," on the other hand, is merely used to prevent stagnation as opposed to active cleaning of the water. (*Id.* at col. 10, lns. 54–57 (stating that the recycling system can be eliminated in windy zones due to natural circulation).)

Each and every use of "removal" and its variants in the specification of the relevant patents refers to elimination of water, surface oils, precipitated impurities, or other contaminants. (JA at 1–22, '514 Patent at Abstract element (e) and (f); col. 3, lns. 1–11 and 50; col. 4, ln. 13 and 64; col. 6, ln. 43; col. 7, lns. 20 and 25–26; col. 8, ln. 41; col. 9, lns. 7, 10, 15, 18, 33, 43–46; col. 10, ln. 29; col. 11, lns. 2, 37, 60; col. 12, lns. 1 and 39; col. 13, ln. 21, 41, 67; col. 17, ln. 30; col. 18,

[3] In the first patent application of the patent family for the '514 and '822 Patent, having the same written description and drawings, Crystal Lagoons emphasized that a low-cost water source was critical (as opposed to expensive municipal water) because "[t]he structure also has systems to harvest and constantly supply fresh water with certain quality needed for the maintenance of the water at a low cost. *This is also not a requirement of standard pools that filter and recirculate the water because they do not need a constant supply of fresh water* with certain physicochemical parameters." (Cloward Appx. at 47, Response to Restriction Requirement, dated Dec. 16, 2009, from the File History of U.S. Patent 7,820,055.) At the time of the forgoing statement, Crystal Lagoons was seeking patent claims similar to those in the '514 Patent with a similar water dumping skimmer system. (Cloward Appx. at 52, Originally Filed Claims in the Application for the '055 Patent at claim 18).) The Federal Circuit has stated that "the meaning of claim terms in one patent can be informed by statements made during prosecution of other patents in the same family." *MasterMine*, 874 F.3d at 1311 n. 2.

ln. 34) Without one use of the term "removal" in the entirety of the '514 and '822 Patents referring to recirculation through a filter, no one of skill in the art would interpret that term as Crystal Lagoons does.

3. Crystal Lagoons told the Patent Office during prosecution of the '514 Patent that the claimed removal of displaced water through the skimmers was not recirculation of the water through a filter.

During prosecution of the '514 Patent, the Patent Office initially rejected the claims based on the Cant Prior Art, which describes a traditionally filtered pool with weirs (i.e., skimmers) connected to the pool's filtration system. (JA at 171–172, Office Action Rejection, at pp. 2–3; *see also* Cloward Appx. 41, Cant Prior Art, at col. 7, lns. 57–65; col. 8, lns. 7–10.) In response, Crystal Lagoons argued that

> Cant in its entirety is silent with respect to the fresh water feeding pipe system of claim 1. In contrast, Cant merely describes a filtration system in which pool water is forced through one or more filters (i.e., filter 54, filter 72) to remove debris from the pool water. (Cant at col 7, ll. 57-65; col. 8, ll. 18-21.) The filtration system of Cant neither discloses not suggests "a fresh water feeding pipe system that allows entrance of fresh water and results in water removal by displacement of surface water through the skimmer system" ….

(JA at 195, Amendment and Response at p. 8) *See also MasterMine*, 874 F.3d at 1312 (Fed. Cir. 2017) (noting that statements made during prosecution are relevant to interpretation of the claims).

Accordingly, the plain language of the claims, the specification of the '514 and '822 Patent, and the prosecution history all set forth that the claimed skimmers remove (i.e., eliminate) water from the structure as opposed to recycle water through a filtration system. The Court should, therefore, adopt Cloward H2O's proposed constructions, which are consistent with that interpretation.

C. Crystal Lagoons specifically defined the "pumping system" and "suction device" as a unique tool to remove flocculated impurities and the associated water, in contrast to traditional vacuums used with filtration systems.

Claim Terms	Cloward H2O's Proposed Construction
"pumping system"	"pump and associated piping connected to a moveable suction device to remove settled debris and suspended solids from the surface of the plastic floor liner by suction of water mixed with the debris and suspended solids and disposal of that water mixed with debris suspended solids, removing them from the structure"
"moveable suction device"	"cleaning device for removal of debris and suspended solids that completely replaces a traditional filtering system together with the use of flocculants"

The '514 and '822 Patents give a special definition to the term "suction device":

> It is important to keep in mind that the objective of the suction device is not only the cleaning of the bottom in the described process, as is the case of vacuum devices of traditional pools, but that said suction device replaces completely the traditional filtering system of swimming pools together with the use of flocculants. Furthermore, the fact that the process contemplates the displacement and removal of superficial water with impurities toward the structure slots complements the action of the suction device.
>
> In other words, the suction device not only removes material naturally deposited on the bottom (leaves, branches, earth, etc.) but also the suspended particles that are eliminated by filtration in the case of swimming pools and that are converted into floccules (larges particles) and are suctioned by the device in this invention ….

(JA at 17, '514 Patent, col. 9, lns. 1–15; *see also* JA at 18, *id.* at col 12, lns. 3–9; JA at 21, *id.* at col. 17, lns. 29–31 ("The suction device of the present invention removes suspended solids (turbidity) that flocculate together with the polymer in an efficient and economic way, thus replacing filtering.").) And because the "suction device" replaces traditional filtration, the suction device and pumping system must dispose of water with the flocculated particles. (JA at 17, *id.* at col. 10, lns. 31–36 ("The crystalline structures or ponds must have water intakes that allow using

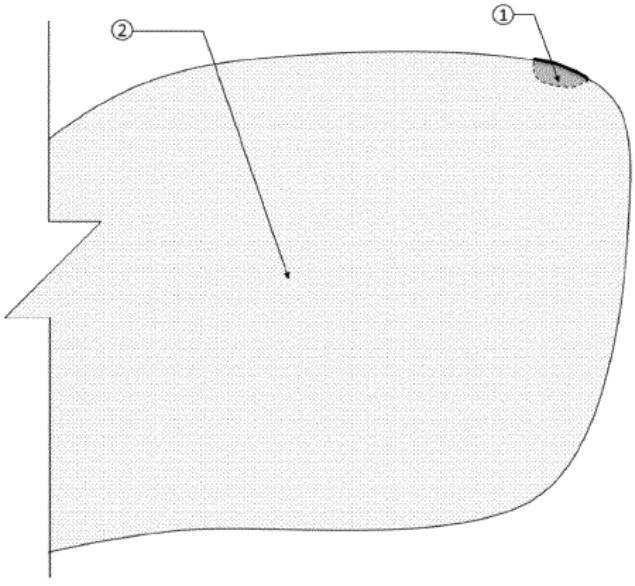
low cost water since, in contrast to swimming pools that recycle water through their filters, in this case the water from the skimmers and the suction cart or device is disposed of.").) This definition provided by Crystal Lagoons in the patents themselves is controlling. *Jack Guttman Inc. v. Kopykake Enterprises, Inc.*, 302 F.3d 1352, 1360–61 (Fed. Cir. 2002) ("Where, as here, the patentee has clearly defined a claim term, that definition usually is dispositive; it is the single best guide to the meaning of a disputed term.").

Accordingly, Crystal Lagoons contrasted the "suction devices" of the patents from traditional pool vacuums and defined them as completely replacing traditional filtering. In light of these specific descriptions, those of skill in the art would not understand "suction device" to refer to a traditional pool vacuum used with traditional filtration. The Court should, therefore, adopt Cloward H2O's proposed constructions for these terms.

II. Construction of Terms and Phrases for the '520 Patent

The '520 Patent stands in stark contrast to the '514 and '822 Patents. The '520 Patent is based on a patent application filed over six years after the priority application for the '514 and '822 Patent. The '520 Patent does not reference walls, flocculent, skimmers, or suction devices; instead, it is directed to treating a portion of a water body such as a reservoir or lake in a defined zone where people are likely to engage in recreational activities. (JA at 28, '520 Patent, col. 1, lns. 11–18.) By only treating the portion of water (identified as numeral 1 in the figure) that is

Figure 1



likely to be used for recreation, treatment of the total water body (identified as numeral 2) can be avoided. (*Id.*; *see also* JA at 26, *id.* at Figure 1.)

Additionally, traditional "water treatment technologies applied to swimming pools require the addition of chemical agents [i.e., chlorine] to maintain a permanent chlorine buffer of at least 1.5 ppm to maintain a permanent ORP of at least 750 mV." (JA at 29, *id.* at col. 3, lns. 29–32.) ORP stands for Oxidation Reduction Potential and is a measure of the effectiveness of killing germs and bacteria. (JA at 33, *id.* at col. 11, lns. 61–64.) In contrast to swimming pools that treat the entire body of water, the '520 Patent discloses a method to reduce chemical use and treat only a portion of a body of water using a complex series of equations to determine a minimum ORP level and a minimum period of time to maintain that lower ORP in the water. (JA at 31, *id.* at col. 8, lns. 9–61.) These equations yield water treatment to maintain reduced ORP levels of 500–550 mV for only 35–60 minutes depending on the water salinity and temperature. (JA at 27 and 35, *id*. at Figures 3–4 and col. 16, lns. 6–63.)

The accused Hard Rock Lagoon is a self-contained pool that operates as a traditional filtered swimming pool, including the addition of chlorine to permanently maintain a high ORP in accordance with traditional pool operation. Like any other traditional pool, the entirety of the Hard Rock Lagoon is chemically treated, and the entire lagoon is intended for swimming and other recreation. The claim construction disputes arise because Crystal Lagoons asserts that its '520 Patent can be interpreted to cover any traditional swimming pool with multiple areas (such as a shallow end and deep end) as long as it maintains an ORP above 550 mV for over 60 minutes—in other words almost every swimming pool. To advance such a strained interpretation, Crystal Lagoons interprets "portion" of a water body to mean the entire water body. Crystal

Lagoons' interpretations also vitiate the claim limitations reciting multiple calculations of minimum ORP values and minimum times to maintain the ORP value, which are supposed to be calculated "based on" the salinity and temperature of the water and claims that such calculations and measurements do not need to occur at all if ORP is maintained above all possible calculated values. Nearly every traditional swimming pool since long before the '520 Patent will have a permanently maintained ORP of 650–750 mV, which is higher than the values of 550 mV and 60 minutes that are calculated under the mandatory calculations of the claims of the '520 Patent. (*See* JA at 14, '514 Patent at col. 3, lns. 20–22 (six years before the '520 Patent application noting that "swimming pools are required to keep minimal disinfectant residual concentrations or permanent redox potential (ORP) levels between 650 mV and 750 mV").)

No person of skill in the art would completely ignore the meaning of the claim limitations and interpret the claims of the '520 Patent as Crystal Lagoons seeks to do. Crystal Lagoons' interpretations run counter the claims and specification of the '520 Patent itself, and the claims of the '520 Patent are not so broad as to cover all traditional swimming pools treated with chlorine.[4]

A. The claims are directed to treatment of a "portion of water" within a water body that is delimited from the rest of the water body by a delimiting zone.

Claim Terms	Cloward H2O's Proposed Construction
"portion of water [within a water body]"	"part of the entire water body"

[4] Contrary to its apparent belief, Crystal Lagoons does not own a monopoly on all swimming pools, whether by its patents or by its repeated assertions in this Court that it owns exclusive trade dress to pools with clear water, sports areas, and rounded shapes or curved geometry. (*See* Docket No. 37 (dismissing trade dress claim based on pools with clear water, beach or sports areas, surrounding commercial facilities such as a hotel, and rounded shapes and curved geometry); *see also* Case No. 2:20-cv-851-BSJ, Docket No. 113 (similarly dismissing trade dress claims in another case before this Court based on the same alleged trade dress with clear water, beach area, sports area, and rounded edges).)

"delimiting zone"	"virtual zone that delimits the sanitary compliance zone from the rest of the water body that is not treated"

The claims of the '520 Patent are all method claims requiring the performance of several method steps, the first of which is "identifying a *portion of water* intended for recreational purposes *within the water body*." (JA at 37, '520 Patent at claim 1, step (a) (emphasis added).) The portion of water intended for recreational purposes has at least three zones: (1) a sanitary compliance zone, (2) a delimiting zone, and (3) a most unfavorable zone. Importantly, the claims make clear that all three zones are part of the "portion of water intended for recreational purposes." (*Id.*)

The specification of the '520 Patent provides specific definitions for each of these: "As used herein, 'sanitary-compliant zone' refers to the portion of water, within the large water body, which is established for recreational purposes, and required to comply with specific microbiological sanitary conditions, when used for recreational purposes or when it is needed." (JA at 31, '520 Patent at col. 7, lns. 5–9.) "[T]he 'delimiting zone' corresponds to a virtual zone that delimits the sanitary-compliant zone, and does not require a physical barrier." (*'Id.* at col. 7, lns. 28–30.) And "the 'most unfavorable zone' corresponds to the zone that shows the lowest ORP values within the identified portion of water, especially after applying a determined amount of chemical agents." (*Id.* at col. 7, lns. 31–34.) But the definition provided for "delimiting zone" only begs the question "delimited" from what? The answer is that the delimiting zone delimits the sanitary compliance zone (i.e., the portion of water intended for recreation) from the rest of the water body that is not treated. The delimiting zone does not delimit the sanitary compliance zone from the most unfavorable zone because the "most unfavorable zone is often, but not

necessarily always, found *on the delimiting zone*." (*Id.* at col. 7, lns. 31–37 (emphasis added).) And the claims make clear that the most unfavorable zone is "within the identified portion of water" (i.e., the treated portion intended for recreation). (JA at 37, *id.* at col. 19, lns. 44–45.)

Thus, the claim interpretation disputes between the parties are whether "portion" means a portion of the water body or whether it can mean the entirety of the water body. The plain meaning of portion is a part and not a whole. (Cloward Appx. at 13, American Heritage Dictionary at p. 1368 (4th ed. 2000) (for portion—"1. A section or quantity within a larger thing; a part of a whole. 2. A part separated from a whole. ….") Additionally, the claimed "portion of water" intended for recreation only makes sense in the context of the claims as a part of the entire water body because the asserted claims elsewhere refer to "supplying water from a *different portion* within the water body into the portion of water intended for recreational purposes in order to provide a dilution effect." (JA at 37, '520 Patent at claim 14 (emphasis added).) There would be no "different portion" from the portion intended for recreation if the portion intended for recreation could be the entire water body. Furthermore, the specification of the '520 Patent only uses the word "portion" to refer to parts of the water body as opposed to the entirety of water bodies. (*See generally* JA 23–38, '520 Patent.)

The whole point of the '520 Patent is to <u>*not*</u> treat the entire water body:

> The method allows treating a small part of the total water volume. Therefore, the method requires only a small amount of chemicals as well as low consumption of energy due to the use of dispenser means that allow creating safe sanitary compliant zones *without needing to treat the entire water body*. Thus, the present disclosure can allow people to use certain zones within large water bodies for recreational purposes in a safe manner, overcoming the limitation or impossibility of treating the whole water body, but *only treating the zone that will be used for such purposes*…

(JA at 30, *id.* at col. 5, lns. 6–15 (emphasis added).) And the specification specifically states that treatment and circulation of water throughout the entire water body "would disperse the chemicals throughout the water body, not allowing the creation of a sanitary compliant zone." (JA at 29, *id.* at col. 4, lns. 38–43.)

Accordingly, interpreting "portion" as a whole appears antithetical to the '520 Patent, and there is no reason to think that one of skill in the art would apply a unique definition to "portion of water … within the water body" in the '520 Patent to refer to the entirety of a water body. The Court should, therefore, adopt Cloward H2O's proposed constructions.

B. The steps for determining the minimum time to maintain a minimum ORP are based on determinations of salinity and water temperature at the most unfavorable zone, requires actually performing the claimed determinations and calculations.

Claim Terms	Cloward H2O's Proposed Construction
"determining [salinity/temperature] of the water [in/at] the most unfavorable zone"	"testing or measuring the [salinity/temperature] of the water [in/at] the most unfavorable zone"
"determining the minimum [ORP value/period of time] based on the [salinity/water temperature] of the water"	"performing the provided calculation or choice for the minimum [ORP value/period of time] governed by the [salinity/water temperature] of the water [at/in] the most unfavorable zone"

Claim 1 of the '520 Patent requires the following:

b. maintaining at least a minimum ORP level in the portion of water for at least a minimum period of time, wherein the minimum ORP level and the minimum period of time cannot be lower than the values calculated by:
   i. determining salinity of the water at the most unfavorable zone; and
   ii. determining the minimum ORP value based on the salinity of the water where:
      [1] for salinities in the water between 0% and up to 1.5% the minimum ORP level is 550 mV;
      [2] for salinities in the water higher than 1.5%, and up to 2.5%, the minimum ORP level is calculated by the following equation:

[Minimum ORP,mV] = 625-50*[Salinity of the Water,%(Weight Percent)]; and

[3] for salinities in the water higher than 2.5%, the minimum ORP level is 500 mV;

iii. determining the temperature of the water in the most unfavorable zone; and

iv. determining the minimum period of time based on the water temperature, wherein:

[1] for water temperatures from 5°C. to 35°C., the minimum period of time is calculated by the following equation:

[Minimum period of time,min] = 80-2*[Temperature of the water,°C]; and

[2] for water temperatures between 35° C. and up to 45°C., the minimum period of time is calculated by the following equation:

[Minimum period of time,min] = 5*[Temperature of the water, °C]-165;

Crystal Lagoons' interpretation contends that these determination steps of limitations [b][i] through [b][iv]do not actually have to take place. Instead, Crystal Lagoons position seems to be that if the water has a salinity (which all water does) and if the water has a temperature (again, which all water does), then it is enough that the salinity and temperature can be determined for use in a calculation of minimum ORP and minimum treatment time. But even then, Crystal Lagoons' interpretation contends that the calculations of the claimed *method* do not actually have to be performed, and that it is enough that the calculations merely *can* be performed.

With respect to the salinity determination and calculation of minimum ORP "based on" the determined salinity, the possible minimum ORP values for the claimed calculations are shown in Figure 3 of the '520 Patent, which illustrates that the calculated minimum ORP will always be 550 mV or lower. (JA at 27 and 35, '520 Patent at Figure 3 and col. 16, lns. 20–21.) In other words, regardless of water salinity, minimum ORP value under the calculations will always be 550 mV or lower. Traditional swimming pools will always maintain ORP above any possible minimum ORP value (550mV+) regardless of water salinity because they "are required to keep minimal disinfectant residual concentrations or permanent redox potential (ORP) levels between

650 mV and 750 mV." (*See* JA at 14, '514 Patent at col. 3, lns. 20–22.) In other words, in traditional swimming pool maintenance, ORP levels are not "based on" salinity.

Notwithstanding, in Crystal Lagoons' view as long as Crystal Lagoons (as opposed to the accused infringer) can input the water salinity level and calculate a minimum ORP, the claim limitations do not actually require the accused infringer to determine water salinity at the most unfavorable zone and to use that determined salinity value in the claimed equations. So under Crystal Lagoons' interpretation, since all traditional swimming pools have a water salinity and maintain an ORP above 550 mV regardless of salinity, all traditional swimming pools will meet the claim limitations of determining salinity and maintenance of a minimum ORP value above the minimum ORP value.

There is no support for Crystal Lagoons' interpretation. The claims are *method* claims, and each expressly requires practicing the step of determining salinity of the water, not just as a general matter, but specifically "at the most unfavorable zone." *See Limelight Networks, Inc. v. Akamai Techs., Inc.*, 572 U.S. 915, 921 (2014) ("A method patent claims a number of steps; under this Court's case law, the patent is not infringed unless all the steps are carried out."). This requires that someone test or measure the water salinity at that specific zone in order to use the measurement in the provided calculation. Once the salinity is determined, the minimum ORP value must be actually calculated or selected "based on" the salinity measurement of the water in the most unfavorable zone. Selection of a desired ORP based on pool codes, best practices, or otherwise that is not actually dependent on water salinity is not a determination "based on" water salinity.

Similarly, with respect to the water temperature determination and calculation of minimum treatment time "based on" the water temperature, the possible minimum treatment times for the claimed calculations are shown in Figure 4 of the '520 Patent. (JA at 27 and 35, '520 Patent at Figure 4 and col. 16, lns. 50–51.) Figure 4 shows that the minimum treatment times according to the claimed calculations will always be 60 minutes or less regardless of water temperature. Again, traditional swimming pools "are required to keep minimal disinfectant residual concentrations or *permanent* redox potential (ORP) levels between 650 mV and 750 mV" regardless of water temperature. (*See* JA at 13, '514 Patent at col. 3, lns. 20–22, JA at 14 (emphasis added).) In other words, the time period to maintain ORP levels in traditional pool maintenance is not "based on" water temperature.

Again, in Crystal Lagoons' view, as long as Crystal Lagoons (as opposed to the accused infringer) can input the water temperature and calculate a minimum period of time, the claim limitations do not actually require an accused infringer to determine water temperature at the most unfavorable zone and to use that determined value in the claimed equations. Since all traditional swimming pools have a water temperature and permanently maintain ORP above 550 mV regardless of that temperature, under Crystal Lagoons' interpretation, all traditional swimming pools will meet the claim limitations of determining temperature and maintenance of ORP for over minimum period of time (i.e., over 60 minutes).

Again, there is no support for Crystal Lagoons' interpretation. The claims themselves require determining temperature of the water not just as a general matter but specifically "at the most unfavorable zone" and using the determined temperature as a basis for the minimum time to maintain ORP levels. This requires that someone test or measure the water temperature at that

specific zone in order to use the measurement in the provided calculations. Once the water temperature is determined, the minimum period of time must be actually calculated "based on" the temperature measurement of the water in the most unfavorable zone. *See also Limelight Networks*, 572 U.S. at 921 ("A method patent claims a number of steps; under this Court's case law, the patent is not infringed unless all the steps are carried out."). Selection of a minimum period of time to maintain the ORP based on pool codes, best practices, or otherwise are not that are not dependent on water temperature is not a determination "based on" water temperature.

Crystal Lagoons' interpretation of the claims to not require an accused infringer to do anything with salinity measurements, temperature measurements, or the provided calculations simply ignores the majority of the claim language. The claims are then reduced to maintenance of a standard swimming pool (perhaps with a shallow end and a deep end) that is treated with chlorine to maintain an ORP above 550 mV (below standards) for at least an hour (when ORP is typically maintained continuously). The claim terms have to mean something and require an accused infringer to do what they say.

Those of skill in the art would not ignore the claimed determination steps and calculations as Crystal Lagoons does under its apparent interpretations. A person of skill in the art would read the claims to mean what they say, i.e., that ORP levels are dependent on or governed by water salinity and temperature determinations according to the provided calculations. The Court should, accordingly, construe the claim terms in accordance with Cloward H2O's proposals.

III. CONCLUSION

For all of the foregoing reasons, the Court should adopt Cloward H2O's proposed constructions.

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Respectfully submitted,

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